

REMARKS

This amendment is responsive to the Office Action mailed January 30, 2008. Reconsideration and allowance of claims 1, 2, 4-10, 12-15, and 22-26 are requested.

Status of the Claims

Claims 1-10, 12-15, and 22-26 were examined in the January 30th Office Action, which was made non-final. All previous bases of rejection have been withdrawn, and new rejections are set forth as follows.

Claims 1-4, 7, 13-15, 22, and 26 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bond et al., U.S. Pat. No. 4,109,643 (hereinafter "Bond") in view of Falcone, U.S. Pat. No. 5,438,983 (hereinafter "Falcone").

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bond in view of Falcone in further view of Kianl et al., U.S. Pat. No. 6,658,276 (hereinafter "Kianl").

Claims 8-10 and 23-25 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bond in view of Falcone in further view of Masuda, U.S. Pat. No. 6,322,516 (hereinafter "Masuda").

Claim 12 stands rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bond in view of Falcone in further view of Tham et al., U.S. Pat. No. 5,912,656 (hereinafter "Tham").

The Amendments

Claim 1 has been amended to incorporate subject matter of dependent claim 3 which is canceled herein.

Claim 3 is canceled.

Claims 24-26 are amended to align the preambles of these dependent claims with that of base claim 22.

**The claims present patentable subject matter
and should be allowed**

Claim 1 recites defining a first perfusion index as a reference value selected from perfusion index values determined during the photometric measuring process; determining subsequent perfusion indices as relative deviations with respect to the reference value; displaying the reference value on the display unit; and presenting said relative deviations as information concerning the variations of the perfusion on the display unit. Claim 1 and incorporated dependent claim 3 both stand rejected based on the combination of Bond and Falcone.

To establish prima facie obviousness, all the claim limitations must be taught or suggested by the prior art. MPEP § 2143.03. It is respectfully submitted that neither Bond nor Falcone nor their combination disclose or fairly suggest defining a first perfusion index as a reference value selected from perfusion index values determined during the photometric measuring process, and displaying the reference value on the display unit. The Office Action at page 3 acknowledges that Bond does not define (much less display) a reference value, and relies upon Falcone as allegedly disclosing these features.

Falcone discloses displaying the current parameter value along with a trend vector represented as an arrow having a direction indicative of the polarity of change and a length indicative of the magnitude of the change. The trend vector of Falcone represents the rate of change of the parameter value, that is, an approximate derivative or slope of the change. Falcone explains:

The trend vector 50 is an approximation to the values of measurement change of the physiological parameter. Measured values continue to be obtained at periodic intervals after the parameter values go outside the safe zone limits (at time zero). From the measured values, values of measurement change relative to the measured value at the time when the parameter went outside the safe zone limits are determined. The values of measurement change are illustrated as points 60, 62, 64, etc. in FIG. 3. The trend vector 50 is preferably a straight line approximation to the values of measurement change. In a preferred embodiment, a conventional least squares approximation is used to calculate the trend vector 50. The trend 50 is calculated for each new measured value.

Falcone col. 4 lines 30-43 (underscores added).

A trend vector (50) is illustrated in Falcone Fig. 3, and is a rate value measured by using a least squares approximation (e.g., a linear regression fit) to the measured data points (60, 62, 64,...). Fig. 4B shows a flow chart for the trend vector analysis, and again the trend vector calculation (78) is described as employing a least squares calculation. Falcone col. 5 lines 40-43.

Further, the trend vector of Falcone is computed by fitting data points acquired after a time zero at which the parameter exceeds a safe zone limit. Such a safe zone limit is not a reference value selected from perfusion index values determined during the photometric measuring process.

A medical practitioner using the proposed Bond/Falcone display could not readily determine a measured reference perfusion index value for comparing with the current perfusion index reading. At best, the proposed Bond/Falcone display would quantitatively inform medical personnel of whether the perfusion index reading has gone outside of a range deemed to be safe. The proposed display would not inform medical personnel of whether a given patient has improved or regressed respective to a reference perfusion index value previously measured for that patient.

Applicants also point out that Falcone does not disclose or fairly suggest display of perfusion index values. Falcone discloses that the parameter values may be from an SpO₂ sensor. Such a device usually measures blood oxygenation level. Derivation of a perfusion index value entails additional computation not disclosed in Falcone, although Bond does disclose such computation.

Claim 22 recites a display unit configured to display a first graphical element indicative of a reference perfusion index value derived from the provided perfusion data at a reference time, and a second graphical element indicative of a subsequent perfusion index value derived from the provided perfusion data at a subsequent time, wherein the display unit displays the first and second graphical elements together to provide a visual indication of a relative deviation of the subsequent perfusion index value from the reference perfusion index value.

Claim 22 also stands rejected based on the proposed combination of Bond and Falcone. Again, it is respectfully submitted that none of Bond, Falcone, or their combination disclose a display unit configured to display a first graphical element

indicative of a reference perfusion index value derived from the provided perfusion data at a reference time. To the contrary, Falcone displays the current perfusion index value and a trend vector indicative of a rate of change of the perfusion index value.

The references do demonstrate is that measurement of perfusion index values has been known for a long time. Bond shows that perfusion meters have been known since at least the mid-1970's. In spite of this, the Office has not, over the course of several Office Actions, identified any reference or combination of references that disclose or fairly suggest the subject matter claimed in the present application. Indeed, the most recently proposed combination of references actually teaches away from the claims of the present application, by disclosing a materially different approach for displaying perfusion index information. Bond and Falcone would lead the skilled artisan to construct a display showing the current perfusion index value and trend information.

The display of the proposed Bond/Falcone combination has substantial deficiencies in that it would fail to inform medical practitioners of whether the current perfusion index reading is "good" or "bad" for a particular patient, and would fail to inform medical practitioners of whether or not the current perfusion index reading is an improvement over the patient's previous perfusion index readings.

The present application, in contrast, overcomes these deficiencies and provides medical practitioners with a readily perceived graphical representation of the improvement (or lack thereof) of the current perfusion index reading for a patient as compared with a previous reference perfusion index value for that patient. Perfusion meters have been known technology for at least two decades, as evidenced by the Bond reference. And yet, the references of record do not disclose or fairly suggest the claims of the present application. This strongly indicates both novelty and nonobviousness of the present claims.

In view of the foregoing, it is respectfully submitted that claims 1, 2, 4-10, 12-15, and 22-26 are in condition for allowance. Accordingly, Applicants respectfully request allowance of claims 1, 2, 4-10, 12-15, and 22-26.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1, 2, 4-10, 12-15, and 22-26 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event personal contact is deemed advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned at (216) 861-5582.

Respectfully submitted,

FAY SHARPE LLP

Robert M. Sieg

Thomas E. Kocovsky, Jr.

Reg. No. 28,383

Robert M. Sieg

Reg. No. 54,446

1100 Superior Avenue, 7th Floor

Cleveland, OH 44114-2579

(216) 861-5582